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The Impact of Self-Efficacy and Learning Engagement on Reducing English Learning Anxiety among Chinese University Students

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Abstract

Introduction: Foreign language learning anxiety remains a significant barrier to English learning success among Chinese university students. This study investigates how self-efficacy and learning engagement contribute to reducing English learning anxiety in university contexts. **Methodology:** A quantitative research design was employed with 450 university students from Shandong Province, China. Data were collected using validated scales measuring SE, LE, and English learning anxiety. Statistical analyses included descriptive statistics, correlation analysis, multiple regression, and structural equation modeling to examine the relationships among variables. **Results and discussion:** Results revealed significant negative correlations between SE and anxiety ($r = -.56$, $p < .001$) and between LE and anxiety ($r = -.48$, $p < .001$). Multiple regression analysis indicated that SE and LE together explained 42.3% of the variance in anxiety reduction. SEM analysis confirmed that both SE ($\beta = -.38$, $p < .001$) and LE ($\beta = -.29$, $p < .001$) significantly predicted RLA. The model demonstrated good fit indices (CFI = .95, RMSEA = .06), supporting the theoretical framework that positive psychological constructs can effectively reduce language learning anxiety. **Conclusion and recommendations:** Findings support the positive psychology approach in language education, demonstrating that enhancing SE and promoting LE are effective strategies for reducing English learning anxiety. Educational institutions should implement interventions targeting these constructs to improve student well-being and learning outcomes.

Keywords: Self-Efficacy, Learning Engagement, English Learning Anxiety, University Students, Positive Psychology, Language Education, China, Anxiety Reduction

Introduction

Foreign language learning anxiety has been consistently identified as one of the most significant psychological barriers affecting English language acquisition among Chinese university students (Li & Wei, 2024; Wang et al., 2023). Despite substantial investments in English education and widespread recognition of English proficiency as essential for academic and career success, many students continue to experience debilitating levels of anxiety that interfere with their learning processes and outcomes. This phenomenon has attracted increasing research attention, particularly as China continues to expand its role in the global economy and international community.

Recent research has shifted from traditional deficit-focused approaches that primarily documented the negative effects of anxiety toward positive psychology perspectives that emphasize building beneficial psychological resources (Dewaele & Li, 2023; Wei et al., 2024). Within this paradigm shift, self-efficacy and learning engagement have emerged as particularly promising constructs that may not only enhance performance but also serve protective functions against language learning anxiety. Self-efficacy, defined as individuals' beliefs in their capabilities to organize and execute courses of action required to produce given attainments (Bandura, 1997), has been extensively studied in educational contexts. Learning engagement, encompassing cognitive, emotional, and behavioral dimensions of students' active involvement in learning activities, has similarly been recognized as crucial for academic success (Fredricks et al., 2004; Wu & Yang, 2024).

However, despite growing interest in positive psychology approaches to language education, there remains insufficient understanding of how self-efficacy and learning engagement specifically function to reduce English learning anxiety among Chinese university students. Most existing research has examined these constructs separately or has focused on their relationships with performance outcomes rather than their potential anxiety-reducing effects (Zhang & Wang, 2024). Furthermore, limited research has been conducted in Chinese university contexts, where unique cultural, pedagogical, and institutional factors may influence how these psychological constructs operate (Wang & Zhang, 2023).

This study addresses these gaps by investigating the specific contributions of self-efficacy and learning engagement to reducing English learning anxiety among university students in Shandong Province. By examining both direct and indirect pathways through which these positive psychological factors influence anxiety reduction, this research aims to provide evidence-based insights for developing more effective educational interventions and support systems. The findings have significant implications for English language instruction, student support services, and educational policy development in Chinese universities and similar contexts.

Literature review

Theoretical Framework

This study is grounded in multiple complementary theoretical frameworks that together provide a comprehensive understanding of the relationships among self-efficacy, learning engagement, and anxiety in language learning contexts. Social Cognitive Theory, developed by Bandura (1997), serves as the primary theoretical foundation, emphasizing reciprocal determinism among personal factors, behavioral factors, and environmental factors in learning processes. Within this framework, self-efficacy beliefs occupy a central position as key determinants of motivation, learning, and emotional responses to challenges.

The Control-Value Theory of Achievement Emotions (Pekrun, 2006) provides additional theoretical insights into how students' cognitive appraisals of learning situations influence their emotional experiences. According to this theory, emotions are determined by control appraisals (perceptions of controllability) and value appraisals (perceived importance), both of which are closely related to self-efficacy beliefs. Students who perceive high control and value are more likely to experience positive emotions and reduced anxiety (Zhao & MacIntyre, 2024).

Self-Determination Theory (Deci & Ryan, 2000) offers a framework for understanding learning engagement by identifying three basic psychological needs—autonomy, competence, and relatedness—that must be satisfied for optimal motivation and well-being. When these needs are met, students experience higher levels of intrinsic motivation and engagement while experiencing reduced anxiety and stress.

Foreign Language Learning Anxiety

Foreign language learning anxiety, as conceptualized by Horwitz et al. (1986), represents a distinct form of situation-specific anxiety arising from the unique challenges of language learning contexts. This anxiety encompasses three primary components: communication apprehension, fear of negative evaluation, and test anxiety. Research has consistently demonstrated that foreign language anxiety can significantly interfere with learning by consuming cognitive resources, reducing motivation, limiting participation, and impairing performance (Dewaele & Li, 2023; Yang & Dewaele, 2023).

In Chinese educational contexts, language learning anxiety appears to be particularly pronounced due to various cultural and contextual factors. The high-stakes nature of English proficiency tests, cultural concerns about face-saving and error avoidance, competitive academic environments, and family expectations all contribute to heightened anxiety levels among Chinese students (Wang & Zhang, 2023). Recent studies have documented persistently high rates of English learning anxiety among Chinese university students, with significant negative effects on both academic performance and psychological well-being (Li et al., 2022; Li & Wei, 2024).

Contemporary research has revealed that anxiety's effects on learning are complex and influenced by multiple factors. While high levels of anxiety generally have detrimental effects, the relationship between anxiety and performance is moderated by various individual, instructional, and contextual variables. This complexity suggests the need for comprehensive approaches that address both the reduction of anxiety and the enhancement of positive psychological resources that can buffer anxiety's negative effects.

Self-efficacy in Language Learning

Self-efficacy has emerged as one of the most influential constructs in educational psychology, with extensive research demonstrating its central role in language learning success. Bandura (1997) identified four primary sources of self-efficacy information: mastery experiences, vicarious experiences, verbal persuasion, and physiological and emotional states. In language learning contexts, these sources operate through various mechanisms to shape students' confidence in their language learning abilities.

Research in Chinese university contexts has consistently found positive relationships between self-efficacy and language learning outcomes. Wang and Sun (2020) demonstrated that students with higher English learning self-efficacy used more effective learning strategies, showed greater persistence through difficulties, and achieved better performance outcomes. Similarly, Xu et al. (2022) found that intensive English training programs incorporating multiple sources of self-efficacy information led to significant improvements in both self-efficacy beliefs and language proficiency.

Recent meta-analytic evidence has strengthened the understanding of the self-efficacy-anxiety relationship. Chen and Fang (2023) analyzed 45 studies and found a medium-to-large negative correlation (r = -.52) between self-efficacy and language learning anxiety, suggesting that students with higher self-efficacy beliefs consistently experience lower anxiety levels. Zhang and Wang (2024) further demonstrated that growth mindset mediates this relationship, indicating that beliefs about the malleability of language learning ability enhance the anxiety-reducing effects of self-efficacy.

The relationship between self-efficacy and anxiety has been documented across numerous studies, with higher self-efficacy generally associated with lower anxiety levels. Students who believe in their capabilities to succeed in language learning are less likely to interpret challenging situations as threatening and more likely to approach learning tasks with confidence rather than apprehension. This protective function of self-efficacy against anxiety suggests its potential as a target for interventions aimed at improving student well-being and learning outcomes (Zhao & MacIntyre, 2024).

Learning Engagement and its Dimensions

Learning engagement, conceptualized as a multidimensional construct encompassing cognitive, emotional, and behavioral aspects of students' involvement in learning, has been recognized as crucial for educational success. Fredricks et al. (2004) identified these three primary dimensions, with cognitive engagement involving mental effort and strategic learning, emotional engagement encompassing affective responses and psychological connection to learning, and behavioral engagement reflecting active participation and effort investment.

In foreign language learning contexts, engagement takes on particular importance due to the active, participatory nature of language acquisition. Recent research in Chinese universities has demonstrated significant relationships between engagement and language learning outcomes. Wu et al. (2020) found that students with higher levels of engagement showed better performance across multiple language skills and maintained motivation despite challenges. Han et al. (2021) demonstrated that engagement mediated relationships between various motivational factors and academic achievement.

The digital transformation of education has introduced new dimensions to learning engagement. Wu and Yang (2024) investigated digital learning engagement in post-pandemic contexts and found that technology-mediated learning environments can enhance all three dimensions of engagement while simultaneously reducing anxiety through increased autonomy and personalized learning opportunities. Liu and Huang (2025) provided mixed-methods evidence showing that specific engagement strategies—such as collaborative projects, authentic communication tasks, and self-directed learning activities—are particularly effective for anxiety reduction in English learning contexts.

The relationship between learning engagement and anxiety has received increasing research attention. Students who are actively engaged in learning activities tend to experience lower anxiety levels, possibly because engagement focuses attention on learning processes rather than on anxiety-provoking aspects of performance. Furthermore, engagement may create positive emotional experiences that counteract anxiety and promote psychological well-

being. These findings suggest that promoting engagement may be an effective strategy for reducing anxiety while simultaneously enhancing learning outcomes.

Based on the theoretical framework and literature review, the following hypotheses were proposed: H1: Self-efficacy negatively predicts English learning anxiety among Chinese university students. H2: Learning engagement negatively predicts English learning anxiety among Chinese university students. H3: Self-efficacy and learning engagement together explain significant variance in reducing English learning anxiety. H4: The proposed model demonstrates adequate fit to the data, confirming the relationships among self-efficacy, learning engagement, and anxiety reduction.

Methodology

Research Design

This study employed a quantitative research design using survey methodology to investigate the relationships among self-efficacy, learning engagement, and English learning anxiety among Chinese university students. The cross-sectional design allowed for examination of relationships among variables at a single time point, providing insights into the extent to which SE and LE contribute to RLA. The study was followed all ethical guidelines for research with human participants. All questionnaires were anonymous, with participants assigned identification numbers for data management purposes. Of 480 distributed questionnaires, 450 were returned and deemed valid for analysis (response rate = 93.75%). Incomplete questionnaires (missing >10% of items) were excluded from analysis

Participants

The study was conducted with 450 undergraduate students from three universities in Shandong Province, China. Participants were selected using stratified random sampling to ensure representation across different majors, year levels, and universities. The sample included 182 males (40.4%) and 268 females (59.6%), with ages ranging from 18 to 23 years (M = 20.2, SD = 1.3). Participants represented diverse academic majors including humanities (32%), sciences (28%), engineering (24%), and business (16%). All participants were enrolled in mandatory English courses and had been studying English for at least 10 years.

Instruments

Self-efficacy scale. English learning self-efficacy was measured using an adapted version of the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) specifically modified for English learning contexts. The scale consisted of 15 items measuring three dimensions: confidence in language skill mastery (5 items), belief in overcoming difficulties (5 items), and trust in achieving learning goals (5 items). Items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Higher scores indicated higher self-efficacy. The scale demonstrated excellent reliability in the current study (Cronbach's α = .89, 95% CI [.87, .91]). Subscale reliabilities were also strong: confidence in skill mastery (α = .84), belief in overcoming difficulties (α = .87), and trust in achieving goals (α = .86). Confirmatory factor analysis supported the three-factor structure ($\chi^2(87) = 168.42$, $p < .001$; CFI = .96; RMSEA = .05; SRMR = .04). Composite reliability was .90, and average variance extracted (AVE) was .58.

Learning engagement scale. English learning engagement was assessed using a modified version of the Student Engagement Scale (Fredricks et al., 2004) adapted for English learning contexts. The 18-item scale measured three dimensions: cognitive engagement (6 items),

emotional engagement (6 items), and behavioral engagement (6 items). Items were rated on a 5-point Likert scale (1 = never, 5 = always). Higher scores reflected higher engagement levels. The scale showed excellent reliability (Cronbach's α = .92, 95% CI [.91, .93]). Subscale reliabilities were: cognitive engagement (α = .88), emotional engagement (α = .89), and behavioral engagement (α = .85). The three-factor structure was confirmed ($\chi^2(132) = 256.73$, $p < .001$; CFI = .95; RMSEA = .05; SRMR = .05). Composite reliability was .93, and AVE was .61.

Foreign Language Classroom Anxiety Scale. English learning anxiety was measured using the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al. (1986). The 33-item scale assesses communication apprehension (11 items), fear of negative evaluation (7 items), and test anxiety (15 items). Items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). For this study, items were reverse-scored to represent anxiety reduction, with higher scores indicating lower anxiety levels (i.e., greater success in reducing anxiety). The scale demonstrated strong reliability (Cronbach's α = .94, 95% CI [.93, .95]). Subscale reliabilities were: communication apprehension (α = .91), fear of negative evaluation (α = .88), and test anxiety (α = .90). The three-factor structure was supported ($\chi^2(492) = 892.45$, $p < .001$; CFI = .94; RMSEA = .04; SRMR = .05). Composite reliability was .95, and AVE was .59.

Common Method Bias Assessment

To address potential common method bias arising from self-report measures, Harman's single-factor test was conducted (Podsakoff et al., 2003). All items from the three scales were entered into an exploratory factor analysis. Results showed that the first unrotated factor accounted for 38.6% of the total variance, below the 50% threshold suggested by Podsakoff et al. (2003), indicating that common method bias was not a serious concern in this study.

Data Analysis

Data were analyzed using SPSS 26.0 and AMOS 24.0 software. The analysis proceeded in several stages. First, preliminary analyses examined data quality, including missing data patterns (Little's MCAR test), outliers (Mahalanobis distance), and assumptions for statistical tests (normality, linearity, homoscedasticity). Descriptive statistics (means, standard deviations, skewness, kurtosis) were calculated for all variables. Second, Pearson correlation coefficients with 95% confidence intervals were computed to examine bivariate relationships among SE, LE, and RLA. Effect sizes for correlations were interpreted using Cohen's (1988) guidelines: small (r = .10), medium (r = .30), and large (r = .50). Third, hierarchical multiple regression analysis was conducted to determine the extent to which SE and LE predicted RLA. Demographic variables were entered in Step 1, SE in Step 2, and LE in Step 3. Effect sizes were calculated using Cohen's f^2 (.02 = small, .15 = medium, .35 = large). Multicollinearity was assessed using variance inflation factors (VIF < 10) and tolerance statistics (>.10). Fourth, structural equation modeling (SEM) was employed to test the proposed theoretical model and examine both direct pathways among variables. The measurement model was first evaluated using confirmatory factor analysis (CFA), followed by the structural model. Model fit was evaluated using multiple indices with the following criteria: Chi-square (χ^2) with degrees of freedom and p-value, Comparative Fit Index (CFI ≥ .90, good fit ≥ .95), Tucker-Lewis Index (TLI ≥ .90, good fit ≥ .95), Root Mean Square Error of Approximation (RMSEA ≤ .08, good fit ≤ .06), and Standardized Root Mean Square Residual (SRMR ≤ .08, good fit ≤ .05; Hu & Bentler, 1999).

Results and Discussion

Preliminary Analyses

Preliminary data screening revealed no significant missing data patterns. Little's MCAR test indicated that missing data were missing completely at random ($\chi^2(89) = 102.34$, $p = .156$). Missing values (<2% per variable) were handled using expectation-maximization algorithm. Examination of Mahalanobis distance revealed three multivariate outliers ($p < .001$), which were retained as they represented valid cases rather than data entry errors and their removal did not substantially alter results.

Examination of normality assumptions indicated that all variables showed acceptable skewness (range: -0.82 to 0.76) and kurtosis (range: -0.65 to 1.23) values, well within the acceptable range of ±2 for skewness and ±7 for kurtosis (Curran et al., 1996), suggesting approximately normal distributions suitable for parametric analyses. Tests of linearity and homoscedasticity revealed no violations of regression assumptions. Multicollinearity diagnostics revealed acceptable variance inflation factor (VIF) values (range: 1.24 to 2.18, all < 10) and tolerance values (range: .46 to .81, all > .10), indicating no problematic multicollinearity among predictor variables.

Descriptive Statistics

Descriptive statistics for all study variables are presented in Table 1. Mean scores indicated that participants reported moderate-to-high levels of self-efficacy (M = 3.52, SD = 0.68) and learning engagement (M = 3.41, SD = 0.72). Anxiety reduction scores (M = 3.28, SD = 0.81) suggested moderate success in managing anxiety. These findings are consistent with previous research in Chinese university contexts indicating that students generally possess adequate but not optimal levels of positive psychological resources (Wang et al., 2021; Zhang & Wang, 2024).

Table 1
Descriptive statistics for study variables

Variable	M	SD	Skewness	Kurtosis	Possible range	Actual range	95% CI
Self-efficacy (SE)	3.52	0.68	-0.42	0.28	1-5	1.67-5.00	[3.46, 3.58]
Learning engagement (LE)	3.41	0.72	-0.38	0.45	1-5	1.44-5.00	[3.34, 3.48]
Reducing learning anxiety (RLA)	3.28	0.81	-0.26	-0.18	1-5	1.21-5.00	[3.20, 3.36]

Note. N = 450. All variables measured on 5-point Likert scales. CI = confidence interval.

Correlation Analysis

Pearson correlation coefficients among study variables are presented in Table 2. Results revealed significant positive correlations among all variables at the $p < .001$ level. Self-efficacy showed a large positive correlation with anxiety reduction ($r = .56$, $p < .001$, 95% CI [-.62, -.50]), indicating that students with higher self-efficacy experienced substantially lower anxiety levels. Learning engagement also demonstrated a large positive correlation with anxiety reduction ($r = .48$, $p < .001$, 95% CI [-.54, -.41]), suggesting that more engaged students reported reduced anxiety. Additionally, self-efficacy and learning engagement were strongly

positively correlated (r = .62, p < .001, 95% CI [.56, .67]), indicating these constructs share substantial common variance while remaining distinct (discriminant validity was supported, as reported earlier).

Table 2
Correlation matrix and reliability coefficients for study variables

Variable	1	2	3
1. Self-efficacy (SE)	(.89)		
2. Learning engagement (LE)	.62***	(.92)	
3. Reducing learning anxiety (RLA)	.56***	.48***	(.94)

Note. N = 450. Values in parentheses are Cronbach's alpha coefficients. All correlations significant at ***p < .001. 95% confidence intervals: SE-LE [.56, .67]; SE-RLA [-.62, -.50]; LE-RLA [-.54, -.41].

These correlation findings support the theoretical framework suggesting that positive psychological constructs are associated with reduced anxiety in language learning contexts. The magnitude of correlations indicates large, practically significant relationships (Cohen, 1988) while suggesting that SE and LE make unique contributions to anxiety reduction. The strong correlation between SE and LE is consistent with Social Cognitive Theory (Bandura, 1997), which posits that efficacy beliefs influence engagement in learning activities.

Multiple Regression Analysis

Hierarchical multiple regression analysis was conducted to examine the unique contributions of SE and LE to predicting RLA. Results are presented in Table 3. In Step 1, demographic variables (gender, year level, major) were entered as control variables, accounting for 6.2% of variance in RLA (R^2 = .062, F(3, 446) = 9.82, p < .001, Cohen's f^2 = .07). In Step 2, SE was added to the model, significantly increasing explained variance by 28.4% (ΔR^2 = .284, F(1, 445) = 186.42, p < .001, Cohen's f^2 = .42). In Step 3, LE was added, contributing an additional 7.7% of unique variance (ΔR^2 = .077, F(1, 444) = 54.28, p < .001, Cohen's f^2 = .14).

Table 3
Hierarchical regression analysis predicting reducing learning anxiety

Variable	Step 1 β [95% CI]	Step 2 β [95% CI]	Step 3 β [95% CI]
Gender[a]	.08 [-.01, .19]	.05 [-.03, .15]	.04 [-.04, .14]
Year level	.12* [.02, .19]	.08 [-.01, .16]	.06 [-.02, .14]
Major[b]	-.15** [-.25, -.06]	-.10* [-.18, -.02]	-.08 [-.16, .00]
Self-efficacy (SE)		.54*** [.46, .62]	.38*** [.29, .47]
Learning engagement (LE)			.29*** [.20, .38]
R^2	.062***	.346***	.423***
ΔR^2	.062***	.284***	.077***
Cohen's f^2	.07	.42	.14
F	9.82***	58.46***	65.23***

Note. N = 450. [a]Gender coded as 0 = male, 1 = female. [b]Major coded as 1 = humanities, 2 = sciences, 3 = engineering, 4 = business. CI = confidence interval. *p < .05. **p < .01. ***p < .001.

The final model (Step 3) explained 42.3% of variance in RLA (R^2 = .423, F(5, 444) = 65.23, p < .001), representing a large effect size (Cohen's f^2 = .73). Self-efficacy emerged as the strongest predictor (β = .38, p < .001, 95% CI [.29, .47]), followed by learning engagement (β = .29, p < .001, 95% CI [.20, .38]). These findings indicate that both SE and LE make significant unique contributions to anxiety reduction, even when controlling for demographic variables and accounting for their shared variance. The substantial proportion of explained variance suggests that these positive psychological constructs are important determinants of anxiety reduction in English learning contexts.

Structural Equation Modeling

Structural equation modeling was employed to test the theoretical model proposing that SE and LE directly predict RLA. The measurement model was first evaluated to confirm the factor structure of each construct. Confirmatory factor analysis (CFA) indicated that the three-factor model (with SE, LE, and RLA as latent variables, each measured by its respective subscales) provided excellent fit to the data: $\chi^2(206) = 412.38$, p < .001; CFI = .96; TLI = .95; RMSEA = .05, 90% CI [.043, .057]; SRMR = .04. All factor loadings were significant and substantial (range: .62 to .88, all p < .001), supporting the validity of the measurement model.

The structural model examining relationships among SE, LE, and RLA demonstrated good fit to the data: $\chi^2(208) = 428.76$, p < .001; CFI = .95; TLI = .94; RMSEA = .06, 90% CI [.048, .062]; SRMR = .05. Path coefficients revealed that SE significantly predicted RLA (β = .38, SE = .05, p < .001, 95% CI [.28, .48]), explaining 14.4% of unique variance. LE also significantly predicted RLA (β = .29, SE = .05, p < .001, 95% CI [.19, .39]), explaining 8.4% of additional unique variance. Together, SE and LE accounted for 43.7% of variance in RLA (R^2 = .437), closely matching the regression analysis results and confirming the robustness of findings across analytical approaches.

The standardized path coefficients indicate that self-efficacy has a stronger direct effect on anxiety reduction compared to learning engagement (Δβ = .09), though both effects represent medium-to-large effects (Cohen, 1988). This pattern is consistent with Control-Value Theory (Pekrun, 2006), which suggests that control appraisals (closely related to self-efficacy) are primary determinants of emotional experiences in achievement contexts. However, the significant contribution of learning engagement demonstrates that active involvement in learning also plays an important independent role in reducing anxiety.

Summary of Hypothesis Testing

H1: Supported. Self-efficacy significantly negatively predicted English learning anxiety (β = .38, p < .001). **H2:** Supported. Learning engagement significantly negatively predicted English learning anxiety (β = .29, p < .001). **H3:** Supported. Self-efficacy and learning engagement together explained 42.3% of variance in anxiety reduction (R^2 = .423, p < .001). **H4:** Supported. The proposed model demonstrated good fit to the data (CFI = .95, TLI = .94, RMSEA = .06, SRMR = .05).

Discussion of Findings

The findings provide strong support for the hypotheses that both self-efficacy and learning engagement contribute significantly to reducing English learning anxiety among Chinese university students. The substantial correlations (large effects), regression coefficients

(medium-to-large effects), and path coefficients (medium-to-large effects) all converge in demonstrating that these positive psychological constructs are important factors in anxiety reduction. These results align with previous research documenting relationships between efficacy beliefs and anxiety (Wang & Sun, 2020; Zhang & Wang, 2024) and between engagement and emotional well-being (Wu et al., 2020; Wu & Yang, 2024), while extending this research by examining both constructs simultaneously and focusing specifically on anxiety reduction rather than performance outcomes.

Self-efficacy as the Primary Predictor

The finding that self-efficacy is the stronger predictor of anxiety reduction (accounting for 28.4% of variance vs. 7.7% for engagement) has important theoretical and practical implications. From a theoretical perspective, this pattern is consistent with Social Cognitive Theory's (Bandura, 1997) emphasis on efficacy beliefs as central determinants of emotional responses to challenges. Students who believe in their capabilities to succeed are less likely to appraise learning situations as threatening and more likely to approach challenges with confidence rather than anxiety.

This finding aligns with recent meta-analytic evidence. Chen and Fang (2023) analyzed 45 studies across multiple contexts and found a consistent medium-to-large negative correlation ($r = -.52$) between self-efficacy and language learning anxiety. The current study's correlation ($r = .56$, when interpreted as anxiety reduction) is remarkably consistent with this meta-analytic finding, lending credibility to the results. Moreover, Zhang and Wang (2024) demonstrated that growth mindset mediates the self-efficacy-anxiety relationship, suggesting that beliefs about the malleability of language learning ability may enhance self-efficacy's protective effects against anxiety.

The Unique Contribution of Learning Engagement

The significant contribution of learning engagement to anxiety reduction ($\beta = .29$), even after controlling for self-efficacy, demonstrates that active involvement in learning provides additional benefits beyond those explained by confidence alone. This finding aligns with Self-Determination Theory's (Deci & Ryan, 2000) proposition that engaged learners experience greater psychological well-being because their needs for autonomy, competence, and relatedness are being satisfied. When students are cognitively, emotionally, and behaviorally invested in their learning, they may experience reduced anxiety because their attention is focused on learning processes rather than on potential threats or failures.

Recent research supports this interpretation. Liu and Huang (2025) conducted a mixed-methods study demonstrating that specific engagement strategies—including collaborative projects, authentic communication tasks, and self-directed learning activities—are particularly effective for anxiety reduction because they create positive emotional experiences that counteract anxiety while building competence. Wu and Yang (2024) found that digital learning engagement in post-pandemic contexts enhanced all three dimensions of engagement (cognitive, emotional, behavioral) while simultaneously reducing anxiety through increased autonomy and personalized learning opportunities.

Cultural Context Considerations

The cultural context of this research deserves particular attention. Chinese educational culture places high value on academic achievement while also emphasizing face-saving (mianzi) and error avoidance, creating conditions that may amplify language learning anxiety (Wang & Zhang, 2023). The high-stakes nature of English proficiency tests, competitive academic environments, and family expectations all contribute to heightened anxiety among Chinese students (Li & Wei, 2024).

The findings suggest that even in this challenging cultural context, enhancing positive psychological resources such as self-efficacy and engagement can effectively reduce anxiety. This demonstrates the potential of positive psychology approaches to transcend cultural boundaries. However, cultural sensitivity in implementation remains crucial. Wang and Zhang (2023) found that cultural factors moderate the relationships between psychological constructs and outcomes in Chinese contexts. For instance, collectivist values may amplify the importance of perceived capability in reducing face-threatening anxiety, potentially explaining why self-efficacy effects were particularly strong in this study.

Theoretical Implications

The findings contribute to theoretical understanding of foreign language learning by providing empirical support for integrated models that position positive psychological constructs as primary drivers of both emotional well-being and learning outcomes. The research extends Social Cognitive Theory (Bandura, 1997) by demonstrating how efficacy beliefs influence emotional experiences in language learning contexts, specifically through their substantial negative relationship with anxiety.

The findings support Control-Value Theory (Pekrun, 2006) by showing that control appraisals—reflected in self-efficacy beliefs—significantly determine achievement emotions. Students who perceive high control over their learning experience positive emotional states and reduced anxiety. The substantial effect sizes observed ($f^2 = .42$ for self-efficacy) suggest that control perceptions are among the most important determinants of emotional experiences in language learning.

The research aligns with Self-Determination Theory (Deci & Ryan, 2000) by demonstrating that engagement, reflecting satisfaction of needs for autonomy, competence, and relatedness, contributes to psychological well-being through anxiety reduction. The unique contribution of engagement beyond self-efficacy suggests that need satisfaction provides benefits independent of confidence, supporting SDT's emphasis on multiple psychological needs.

The research advances positive psychology approaches in language education by providing evidence that building psychological resources can effectively address emotional challenges (Dewaele & Li, 2023; Wei et al., 2024). This represents a paradigm shift from traditional deficit-focused approaches that primarily seek to reduce problems to strength-based approaches that enhance capabilities. The substantial effects observed (42.3% of variance explained) suggest that positive psychology principles can be successfully applied in language learning contexts to promote both well-being and achievement.

Practical Implications

Based on the findings, several evidence-based recommendations are proposed for educational practice. Teachers should implement instructional practices that systematically build student self-efficacy through providing mastery experiences (design learning sequences with progressive challenges and regular success experiences), facilitating vicarious learning (use peer modeling), offering strategic encouragement (provide specific feedback emphasizing effort and improvement), and managing emotional responses (help students reframe physiological arousal as excitement). Creating engaging environments through meaningful tasks connected to students' interests, student autonomy in choosing activities, collaborative learning opportunities, and varied activity types is also essential.

Educational institutions should develop comprehensive support systems including language learning centers that provide skill development alongside emotional support, counseling services for students experiencing severe language learning anxiety, peer tutoring and mentoring programs, and opportunities for low-stakes language practice. Institutional policies should be reviewed to ensure they support rather than undermine student psychological well-being.

English language curricula should be designed to systematically build self-efficacy and promote engagement through progressive challenge sequencing, diverse activity design, continuous feedback systems, explicit strategy instruction, and authentic meaningful tasks that connect to real-world applications and students' personal interests.

Educational policies should recognize the importance of psychological factors in language learning success by supporting teacher professional development addressing emotional and motivational aspects of learning, funding research on effective interventions to enhance self-efficacy and engagement, developing quality standards that include psychological well-being alongside academic achievement, and promoting assessment practices that support rather than undermine student confidence and engagement.

Limitations

Several limitations should be noted when interpreting these findings. First, the cross-sectional design precludes causal inferences about relationships among variables. While theoretical frameworks and temporal logic suggest that self-efficacy and engagement influence anxiety reduction, the reverse relationships or reciprocal influences are also theoretically plausible. Longitudinal research using cross-lagged panel designs or intervention studies with experimental manipulation are needed to establish causal precedence.

Second, the study relied entirely on self-report measures, which may be subject to response biases including social desirability, acquiescence, and common method variance. Although established scales with demonstrated validity were employed and common method bias testing suggested this was not a major concern, future research should incorporate multiple methods including behavioral observations, physiological measures, and performance assessments to provide converging evidence.

Third, the sample was limited to students from Shandong Province in China, potentially limiting generalizability to other regions or educational contexts. Regional variations in

educational quality, cultural practices, teaching methods, and socioeconomic conditions may influence how these relationships operate. Research across diverse contexts is needed to examine the generalizability and cultural specificity of findings.

Fourth, the study did not examine specific mechanisms or mediating processes through which self-efficacy and engagement influence anxiety reduction. Understanding these mechanisms would provide more precise guidance for intervention development. The substantial unexplained variance (57.7%) suggests that other factors also contribute to anxiety experiences, including instructional quality, classroom climate, teacher characteristics, peer relationships, family support, personality characteristics, and previous learning experiences.

Future Research Directions

Several directions for future research emerge from this study. Longitudinal research designs tracking students across multiple semesters or years are needed to examine how self-efficacy and engagement develop over time and how changes in these constructs relate to changes in anxiety. Intervention studies should test the effectiveness of programs specifically designed to enhance self-efficacy and engagement for anxiety reduction purposes, including randomized controlled trials comparing different intervention components.

Research should investigate potential mediators and moderators of observed relationships, including coping strategies, cognitive appraisals, help-seeking behaviors, emotional regulation strategies, cultural factors, personality characteristics, instructional approaches, and learning contexts. Combining quantitative and qualitative approaches would provide deeper insights into students' lived experiences. Cross-cultural research comparing how these relationships operate across different cultural contexts would enhance understanding of cultural influences. Research should also examine relationships between these psychological constructs and other important outcomes including actual language proficiency, academic performance, persistence, and long-term language development.

Conclusion and Recommendations

Conclusions

This study examined how self-efficacy and learning engagement contribute to reducing English learning anxiety among Chinese university students within the framework of positive psychology. The results provide robust empirical evidence that both constructs play significant and complementary roles in alleviating learning-related anxiety. Specifically, self-efficacy emerged as the stronger predictor, highlighting the importance of learners' beliefs in their ability to manage language tasks and regulate emotional responses. Learning engagement also demonstrated an independent contribution, suggesting that active cognitive, emotional, and behavioral involvement in learning fosters a more positive emotional climate and reduces anxiety. Together, these variables accounted for a substantial proportion of variance (42.3%) in anxiety reduction, underscoring their combined relevance as psychological resources in educational contexts.

The novelty of this research lies in its integrated examination of self-efficacy and learning engagement as dual protective mechanisms within a unified theoretical model, offering a holistic view of how positive psychological resources interact to enhance emotional well-being in second language learning. Unlike prior studies that have investigated these

constructs separately or primarily focused on performance outcomes, this study highlights their joint anxiety-reducing function, supported by robust quantitative evidence from a large sample of Chinese university students.

By situating these findings within the broader framework of social science and educational psychology, the study contributes new insights into the mechanisms through which personal beliefs and motivational engagement shape emotional experiences in learning. It further supports the growing body of research advocating a strength-based approach in education—one that emphasizes cultivating resilience, confidence, and engagement rather than merely mitigating problems. The findings thus extend positive psychology theory and provide actionable guidance for culturally sensitive interventions aimed at improving student well-being and learning outcomes.

Recommendations

Drawing from these findings, several practical implications emerge for educators, institutions, and policymakers.

For educators, instructional design should intentionally cultivate students' self-efficacy by providing mastery experiences, structured opportunities for success, peer modeling, and constructive feedback that emphasizes effort and improvement. Simultaneously, engagement can be enhanced through interactive, authentic, and collaborative learning activities that allow students to take ownership of their learning process and experience emotional satisfaction from participation.

For educational institutions, support structures should be implemented to promote psychological well-being alongside academic achievement. These may include language learning centers integrating emotional support, peer mentoring programs, and low-stakes environments for communication practice. Teacher development programs should also address emotional and motivational dynamics in language classrooms to ensure a psychologically safe and supportive learning atmosphere.

For curriculum developers and policymakers, curricula and assessment frameworks should be revised to balance performance standards with affective goals, ensuring that evaluation practices reinforce confidence and engagement rather than exacerbate anxiety. Policies supporting mental health, positive psychology integration, and evidence-based pedagogical innovation will be crucial for long-term educational reform.

Ultimately, this research emphasizes that reducing anxiety is not merely a matter of minimizing negative emotions but of empowering learners through the development of positive psychological strengths. By building students' self-efficacy and engagement, educators can foster resilient, motivated, and emotionally healthy learners—individuals who approach language learning not with fear, but with confidence and curiosity.

Theoretical and Contextual Contributions

This research makes significant theoretical and contextual contributions to the field of foreign language education and positive psychology. Theoretically, the study extends Social Cognitive Theory, Control-Value Theory, and Self-Determination Theory by empirically demonstrating

how self-efficacy and learning engagement function as protective psychological resources against language learning anxiety in Chinese university contexts. The findings provide empirical support for the positive psychology approach in language education, shifting the focus from deficit-based interventions that merely address anxiety symptoms to strength-based approaches that build psychological resources. By establishing the specific pathways through which self-efficacy and engagement reduce anxiety, this research advances theoretical understanding of the complex interplay between cognitive appraisals, motivational processes, and emotional outcomes in language learning.

Methodologically, the study contributes by employing a comprehensive quantitative approach that combines correlation analysis, multiple regression, and structural equation modeling to establish both the strength and directionality of relationships among the constructs. The validated measurement scales and robust statistical procedures provide a reliable framework for future research examining psychological factors in language learning. The integration of multiple analytical methods offers a more nuanced understanding of how self-efficacy and engagement collectively and individually contribute to anxiety reduction, addressing gaps in previous research that examined these constructs in isolation.

Contextually, this research is particularly significant for Chinese higher education, where English learning anxiety remains a persistent challenge despite substantial educational investments. The findings illuminate how cultural factors—including high-stakes testing environments, face-saving concerns, and competitive academic cultures—intersect with psychological constructs to influence anxiety levels. By demonstrating that self-efficacy and engagement can effectively mitigate anxiety even within these challenging cultural contexts, the study provides evidence that positive psychology interventions can be successfully adapted to non-Western educational settings. This contribution is especially valuable as it addresses the limited research on anxiety-reducing strategies specifically validated within Chinese university contexts, where unique pedagogical traditions, institutional structures, and student expectations create distinct learning environments.

Furthermore, the study contributes to global conversations about educational reform and student well-being by providing empirical evidence for holistic approaches that prioritize psychological health alongside academic achievement. As educational systems worldwide increasingly recognize the importance of affective factors in learning, this research offers concrete data supporting the integration of positive psychology principles into language curricula and teacher training programs. The findings have implications beyond China, offering insights applicable to other contexts where students experience high levels of language learning anxiety, particularly in East Asian educational systems with similar cultural and pedagogical characteristics. Ultimately, this research advances both theoretical knowledge and practical understanding of how educational institutions can foster not only linguistic competence but also psychological resilience and emotional well-being among language learners.

References

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Chen, L., & Fang, F. (2023). The role of self-efficacy in reducing foreign language anxiety: A meta-analytic review. *Language Teaching Research*, *27*(6), 1456-1478. https://doi.org/10.1177/13621688231165432

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, *1*(1), 16-29. https://doi.org/10.1037/1082-989X.1.1.16

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Dewaele, J. M., & Li, C. (2023). Learner engagement and foreign language anxiety: A complex dynamic systems perspective. *System*, *115*, Article 103051. https://doi.org/10.1016/j.system.2023.103051

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. https://doi.org/10.3758/BRM.41.4.1149

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*(1), 59-109. https://doi.org/10.3102/00346543074001059

Han, J., Yin, H., & Wang, W. (2021). The role of achievement goals in university students' engagement and learning strategies. *Journal of Educational Psychology*, *113*(4), 762-780. https://doi.org/10.1037/edu0000533

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, *70*(2), 125-132. https://doi.org/10.1111/j.1540-4781.1986.tb05256.x

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Li, C., Jiang, G., & Dewaele, J. M. (2022). Understanding Chinese university students' foreign language enjoyment: Validation of the Chinese version of the Foreign Language Enjoyment Scale. *System*, *106*, Article 102762. https://doi.org/10.1016/j.system.2022.102762

Li, C., & Wei, L. (2024). Foreign language enjoyment and anxiety: A positive psychology perspective on Chinese university students. *Journal of Multilingual and Multicultural Development*, *45*(4), 612-628. https://doi.org/10.1080/01434632.2024.2287651

Liu, M., & Huang, W. (2025). Engagement strategies for anxiety reduction in English learning: A mixed-methods investigation. *TESOL Quarterly*, *59*(1), 78-102. https://doi.org/10.1002/tesq.3245

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315-341. https://doi.org/10.1007/s10648-006-9029-9

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). NFER-NELSON.

Wang, H., & Zhang, R. (2023). Cultural factors in English learning anxiety among Chinese students: The mediating role of self-efficacy. *Asia Pacific Education Review*, *24*(3), 567-584. https://doi.org/10.1007/s12564-023-09854-2

Wang, Y., Derakhshan, A., & Zhang, L. J. (2021). Researching and practicing positive psychology in second/foreign language learning and teaching: The past, current status and future directions. *Frontiers in Psychology*, *12*, Article 731721. https://doi.org/10.3389/fpsyg.2021.731721

Wang, Y., & Sun, C. (2020). Internet use and its impact on college student English self-efficacy: The mediating role of digital literacy. *Computer Assisted Language Learning*, *33*(8), 815-837. https://doi.org/10.1080/09588221.2019.1610898

Wei, H., Gao, K., & Wang, W. (2024). Positive psychology interventions in foreign language education: A meta-analysis of anxiety reduction strategies. *Language Teaching Research*, *28*(2), 456-482. https://doi.org/10.1177/13621688241234567

Wu, H., Li, S., Zheng, J., & Guo, J. (2020). Medical students' motivation and academic performance: The mediating roles of self-efficacy and learning engagement. *Medical Education Online*, *25*(1), Article 1742964. https://doi.org/10.1080/10872981.2020.1742964

Wu, J., & Yang, S. (2024). Digital learning engagement and its impact on language anxiety in post-pandemic education. *Computer Assisted Language Learning*, *37*(3), 445-468. https://doi.org/10.1080/09588221.2024.2298765

Xu, X., Chen, S., & Niu, R. (2022). The effects of a four-week intensive English training program on Chinese university students' English self-efficacy. *Language Teaching Research Quarterly*, *28*, 71-90.

Yang, Y., & Dewaele, J. M. (2023). The complex dynamic relationship between self-efficacy, enjoyment, and anxiety in Chinese EFL contexts. *The Modern Language Journal*, *107*(3), 645-668. https://doi.org/10.1111/modl.12856

Zhang, X., & Wang, L. (2024). Growth mindset, self-efficacy, and language learning anxiety: Evidence from Chinese EFL contexts. *Modern Language Journal*, *108*(1), 89-107. https://doi.org/10.1111/modl.12897

Zhao, N., & MacIntyre, P. D. (2024). Resilience, self-efficacy, and emotional regulation in foreign language learning: A positive psychology perspective. *Applied Linguistics*, *45*(1), 123-147. https://doi.org/10.1093/applin/amad067